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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/740,615 | 12/18/2000 | Sheldon Schultz | 2003-0001.20 | 1773 |
| 22918 | 7590 | 03/31/2005 | EXAMINER | |
| PERKINS COIE LLP | | | LAM, ANN Y | |
| P.O. BOX 2168 | | | ART UNIT | |
| MENLO PARK, CA 94026 | | | PAPER NUMBER | |

1641

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/740,615

Applicant(s)

SCHULTZ ET AL.

Examiner

Ann Y. Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Februaru 14, 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-26, 28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-26 and 28-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 26 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26, lines 3-5, lists a Markush group, but uses "or" in line 4, in addition to "and" in line 5. It is unclear as to whether the limitations after the word "or" in line 4 are of the Markush group. (Applicant should use the word "and" in a Markush group.)

Similarly, claim 28, lines 3-6, lists types of values, but uses "or" in lines 4 and 5, and "and" in line 5. It is unclear as to whether or not these types of values are being referred to in the alternative.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(e) the invention was described in (1) an application for

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 19-26 and 28-29 are rejected under 35 U.S.C. 102(e) as being anticipated by King et al., 5,633,724.

The King et al. reference discloses an apparatus comprising:

an optical light source (see column 14, line 20) for illuminating a field having a plurality of plasmon resonant entities (PREs),

an optical detector (e.g., a video camera, 208a, see column 6, lines 13-20) for detecting a spectral emission characteristics of individual PREs and other light scattering entities in the field, where said optical light source and detector are designed to allow detecting the spectral emission characteristics of PREs and other light scattering entities in the field at each of a plurality of different spectral wavelengths (a video camera captures spectral emission characteristics of PRE's, e.g., color)

an image processor (122, see column 5, lines 58-59) operatively connected to the detector for constructing a computer image of the positions (see column 4, lines 52-55 and column 5, lines 53-60, and column 6, lines 13-15) and values (see column 6, line 60 – column 7, lines 22) of the spectral emission characteristic of individual PREs and other light-scattering entities in the field at each of said plurality of spectral wavelengths,

discriminator means (e.g., video camera, 208a, col. 6, lines 13-20) for discriminating PRE's with a selected spectral signature from other light-scattering

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entities in the computer image, based on a comparison of a selected spectral characteristic of PREs and other light-scattering entities in the field determined over said different spectral wavelengths,

and output means (122, see column 5, line 58, and column 6, lines 13-15) for displaying information about the field based on the information about the selected PREs.

As to claim 20, the light source includes a bright field/dark field lens (see column 9, line 31, and column 15, line 5.)

As to claim 21, the light source includes means for illuminating at a plurality of different wavelengths (see column 12, line 2.)

As to claim 22, the detector is a two-dimensional photodetector array (208a, see column 6, line 8-9) capable of detecting a spectral emission characteristic simultaneously from a plurality of illuminated PREs.

As to claim 23, the detector includes means (e.g., video camera, 208a, col. 6, lines 13-20) for spectrally separating light emitted from the PREs into said plurality of different spectral wavelengths, and said image processor operates to form a computer image of the positions (see column 4, lines 52-55 and column 5, lines 53-60, and column 6, lines 13-15) and values (see column 6, line 60 – column 7, lines 22) of the emission spectral characteristic of individual PREs and other light-scattering entities.

As to claim 24, the optical detector includes a two-dimensional array of optical fibers (450, see column 14, line 20) whose output is aligned so as to constitute a line

source that is sent into a grating or prism (104see column 5, line 6), and a two-dimensional detector array (208a, see column 6, line 8-9).

As to claim 25, there is a means for moving the target in an x-y plane (see column 10, line 6-7.)

As to claim 26, the image processor operates to construct an image of PRE positions (see column 4, lines 52-55 and column 5, lines 53-60, and column 6, lines 13-15) and peak intensity (see column 4, lines 52-55 and column 5, lines 53-60, and column 6, lines 13-15)

As to claim 27, the image processor operates to construct an image of PRE positions (see column 4, lines 52-55 and column 5, lines 53-60, and column 6, lines 13-15) and fluorescence emission spectrum or Raman spectrum (see column 6, lines 42-50.)

As to claim 28, the discriminator means includes means for discriminating PREs based on detected values of peak intensity (see column 4, lines 40-42, column 4, line 66 – column 5, line 4, and column 6, line 62 – column 7, line 8.)

As to claim 29, the discriminating means discriminates for a selected type of PRE, or those PREs which are interacting with one another and those which are not (see column 4, lines 40-42, column 4, line 66 – column 5, line 4, and column 6, line 62 – column 7, line 8.)

Response to Arguments

Applicant's arguments filed February 14, 2005 have been fully considered but they are not persuasive.

Applicant argues that the King et al. reference does not show or suggest a discriminating means for discriminating PRE's with a selected spectral signature from other light-scattering entities in the field, based on a comparison of a selected spectral characteristic of PREs and other light-scattering entities in the field determined over different spectral wavelengths. Applicant argues that a prior art computer program must be shown to perform the claimed function in order to meet the claims.

Because the above rejections under King et al. are different from the rejections in the previous Office action (i.e., the detector means and discriminator means are anticipated by the disclosure of a video camera, as opposed to a computer program in general, as indicated above), Applicant's arguments are therefore moot. Because a video camera captures the different spectral characteristics of PRE's, for example, color or black/white intensities, and position of the PRE's, the video camera meets the claimed limitations.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schildkraut et al., 5,075,796, discloses a detector means for detecting different wavelengths to form an image (col. 8, lines 6-16) of a surface plasmon. Schultz et al., 6,180,415, is a related patent.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann Y. Lam whose telephone number is 571-272-0822. The examiner can normally be reached on M-Sat 11-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.L.



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3/17/05